

# Outline

- **Overview of NIH and the Intramural Research Program (IRP)**
- **Overview of Scientific Director responsibilities**
- **Key resources**

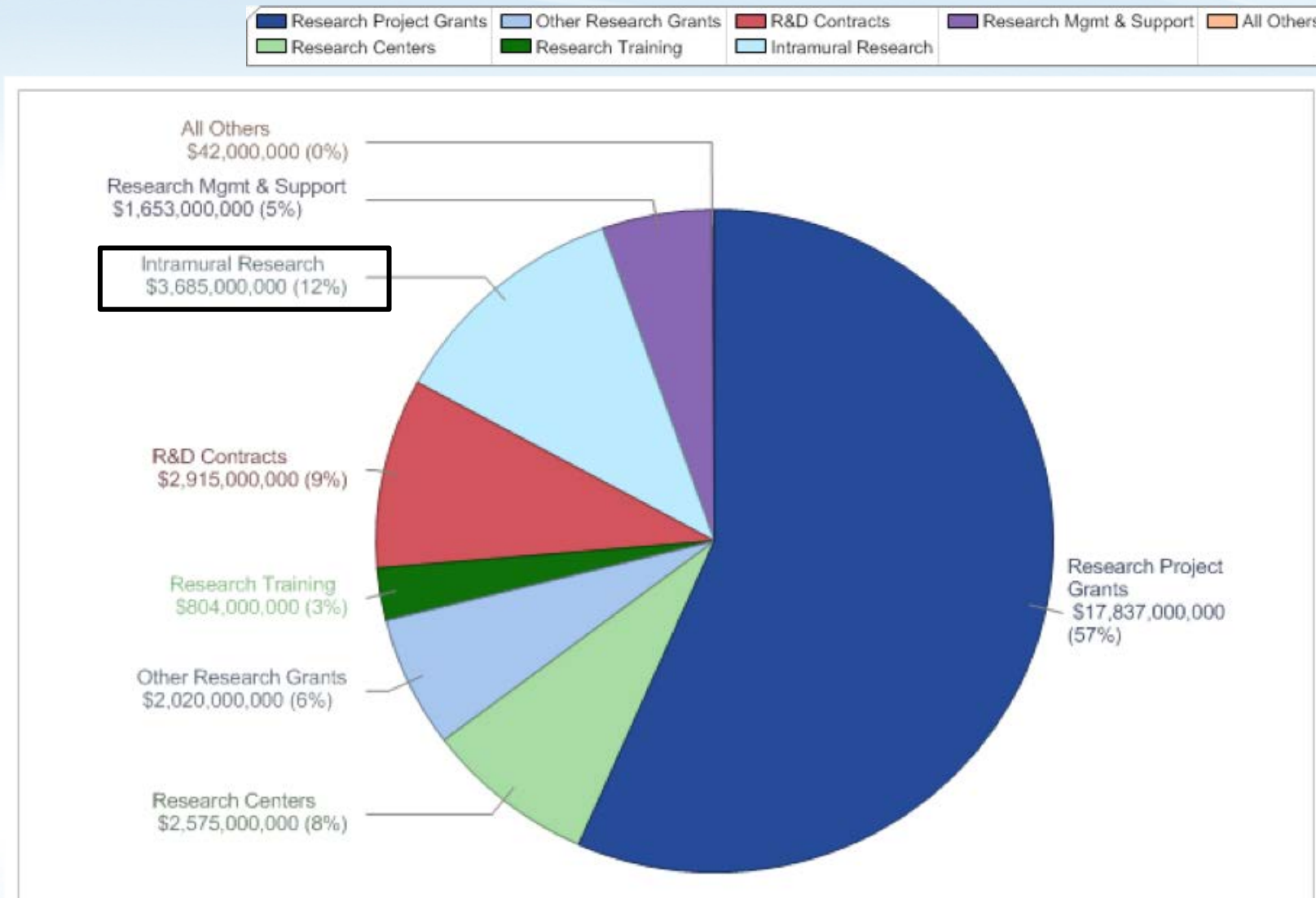
# The National Institutes of Health

NIH's mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability by:

- Conducting research in its own laboratories (**intramural**)
- Providing support for research conducted by scientists in universities, medical schools, hospitals, and other research institutions throughout the country and abroad (**extramural**)
- Training biomedical researchers
- The communication of medical information

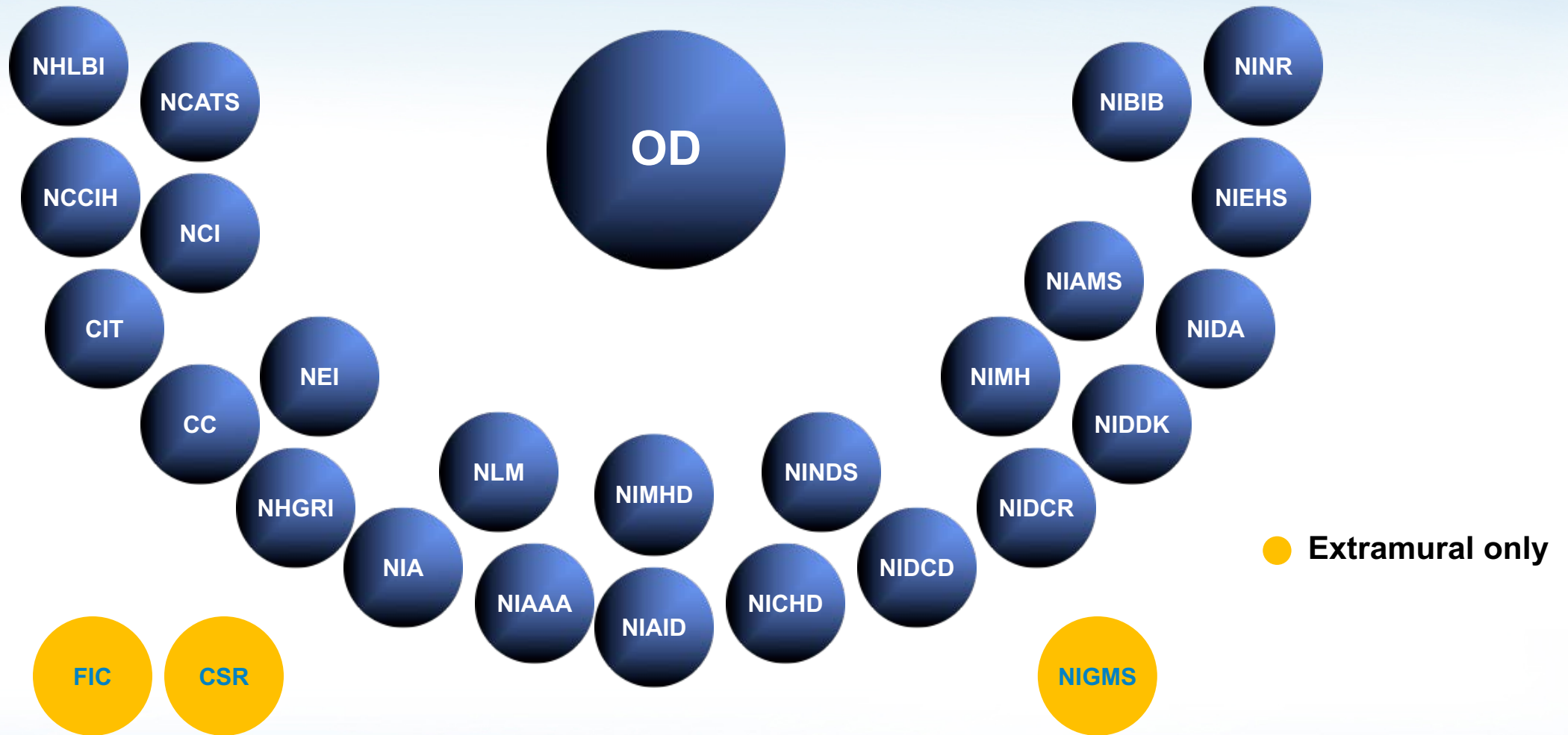
# Over 80% of NIH funds Supports Extramural Research

## Approximately 12% Supports Intramural Research

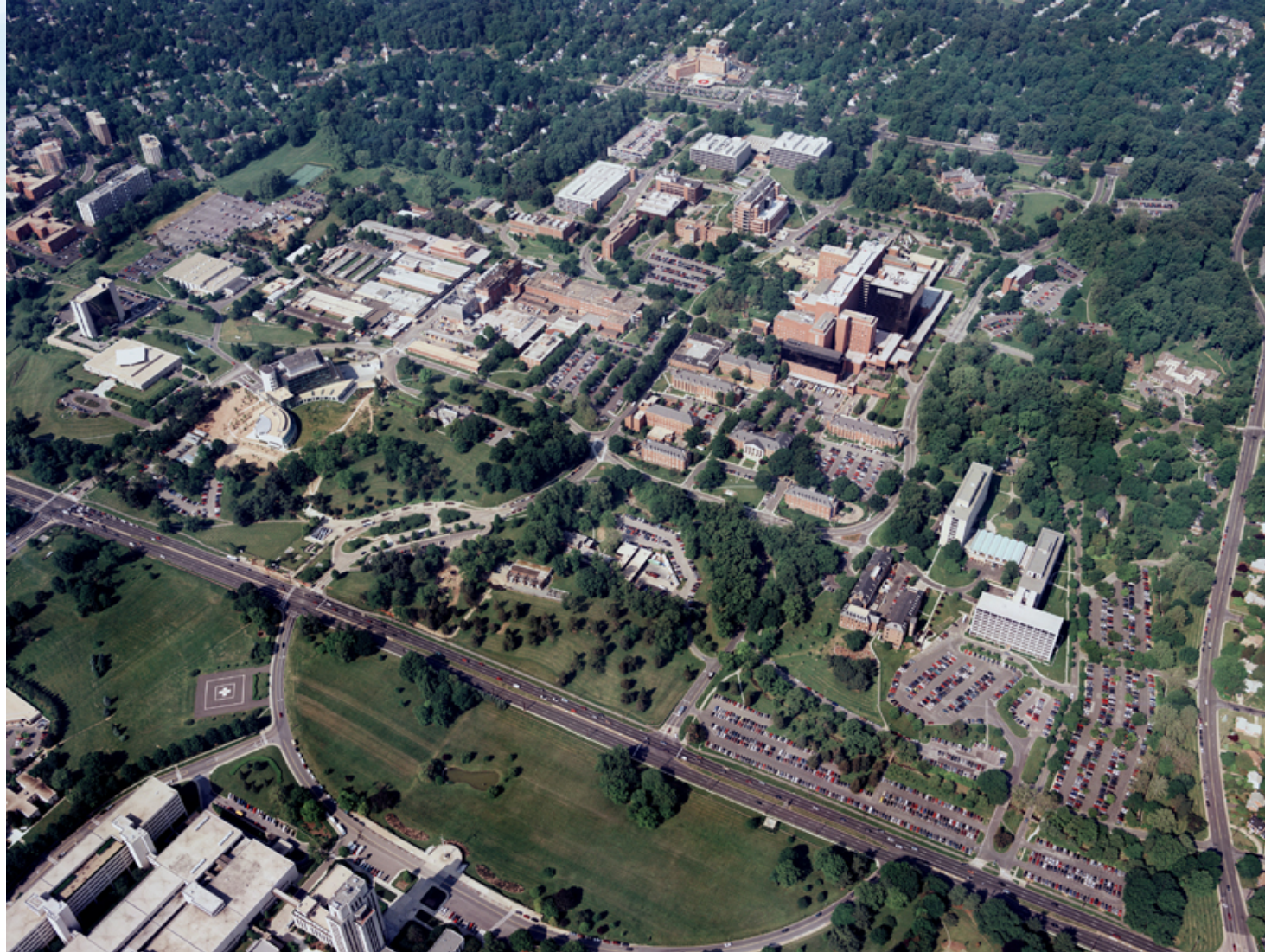


Fiscal Year (FY)  
2016 Data

# NIH consists of 27 Institutes and Centers (ICs)



# The Main NIH Campus



The NIH has 75 buildings on 322 acres in Bethesda, Maryland

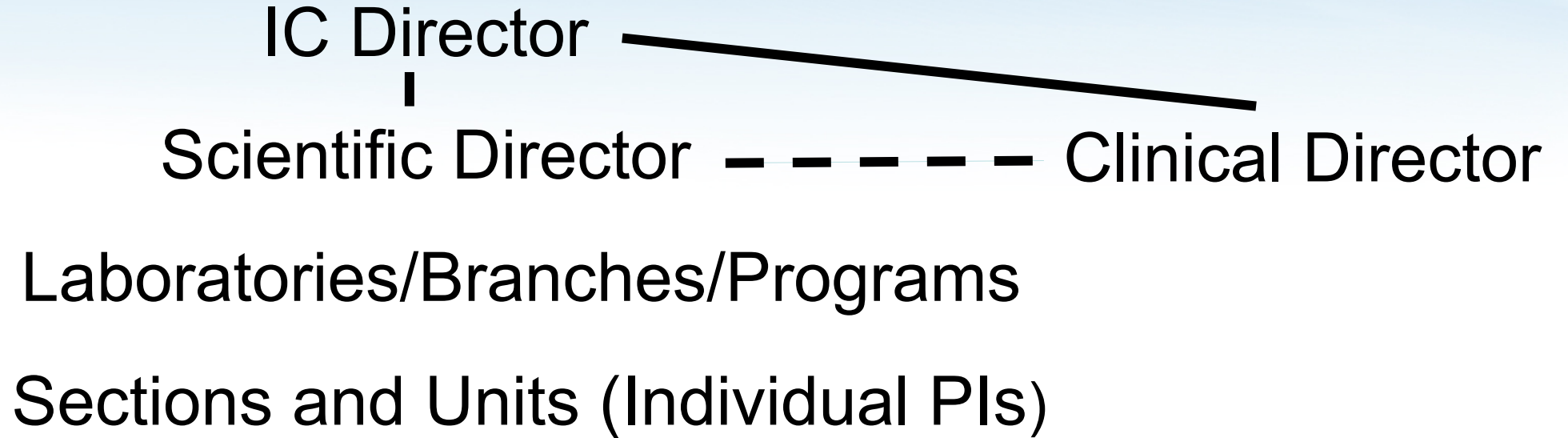
Two Metro stops from Washington, DC

# NIH Has Facilities Around the Country

- **Rockville, Gaithersburg, Frederick and Baltimore, MD (NCI, NIA, NIAAA, NIAID, NIDA)**
- **Research Triangle Park (Raleigh/Durham), NC (NIEHS)**
- **Hamilton, MT (NIAID)**
- **Phoenix, AZ (NIDDK)**
- **Framingham, Mass. (NHLBI)**
- **Detroit, MI (NICHD)**

<http://irp.nih.gov/our-research/our-programs/text>

# Typical IC Research Organizational Structure



# Intramural Professional Designations (IPDs)

## Tenured Positions in Green

Intramural (Basic)	Intramural (Clinical)	Clinical Track (f) (High Scarcity Specialties)
<ul style="list-style-type: none"> <li>Research Fellow (g)</li> <li>Senior Research Fellow (g)</li> <li>Staff Scientist 1(g)</li> <li>Staff Scientist 2 (f)</li> <li>Investigator 1 (g)</li> <li>Investigator 2 (f)</li> <li>Senior Scientist (f)</li> <li>Senior Investigator (f)</li> <li>NIH Distinguished Inv</li> </ul>	<ul style="list-style-type: none"> <li>Clinical Fellow (g)</li> <li>Senior Clinical Fellow (g)</li> <li>Staff Clinician1 (g)</li> <li>Staff Clinician 2 (f)</li> <li>Asst CI Investigator 1(g)</li> <li>Asst CI Investigator 2 (f)</li> <li>Investigator 1 (g)</li> <li>Investigator 2 (f)</li> <li>Senior Clinician (f)</li> <li>Senior Investigator (f)</li> <li>NIH Distinguished Inv</li> </ul>	<ul style="list-style-type: none"> <li>Staff Clinician (HS)</li> <li>Asst CI Investigator (HS)</li> <li>Investigator (HS)</li> <li>Senior Clinician (HS)</li> <li>Senior Investigator (HS)</li> </ul>

g = limited term  
f = indefinite

For fuller explanations of IPDs see:

<https://oir.nih.gov/sourcebook/personnel/ipds-appointment-mechanisms>

- 1 is less than or equal to EX-IV
- 2 is greater than EX-IV

# Non-IPD Additional Titles for Staff Clinicians

- Assistant Research Physician
- Associate Research Physician
- Senior Research Physician
- For details see: <https://oir.nih.gov/sourcebook/personnel/ipds-appointment-mechanisms/staff-clinician>

# Approximately how many researchers are at NIH?

## Full-Time Equivalent (FTE) Employees



- 822 Senior Investigators
- 211 Tenure-track Investigators
- 25 Senior Clinicians
- 44 Senior Scientists
- 28 Assistant Clinical Investigators
- 277 Staff Clinicians
- 1423 Staff Scientists
- 278 Clinical Fellows
- 509 Research fellows

As of Oct. 1, 2017

For more in-depth demographics see:

<https://oir.nih.gov/sourcebook/personnel/irp-demographics>

# Approximately how many researchers are at NIH?

## Non-FTE Trainees



2286 Postdoctoral Fellows

389 Graduate/Medical/Dental students (long-term)

1309 Post-Baccalaureate trainees

1429 Summer Students

Last updated Oct. 1, 2017

For more in-depth demographics see:

<https://oir.nih.gov/sourcebook/personnel/irp-demographics>

# Key Elements of Intramural Program

- Intellectual freedom: ability to do high-risk, high- impact science because of a predominantly retrospective review system
- Stable resources and funding for new technology and long-term projects
- A critical mass of talent to collaborate with: recruitment from diverse sources, “an eye for talent”
- The ability to respond rapidly to emerging public health problems
- Leadership that recognizes the unique features of the NIH intramural program and preserves them – support for unconventional ideas

# Distinctive Features of Intramural Research

- Well-equipped, safe, modern research laboratories (5,571,000 net assignable sq. ft.)
- State-of-the-art equipment
- Extensive animal facilities
- Effective technology transfer program

# Distinctive Features of Intramural Research

- Clinical Center-a hospital dedicated to research
- Access to patients with rare diseases from across the U.S. and the world
- ICs with specific disease orientations
- Ability to respond quickly to public health threats (e.g. Ebola)

# Key Intramural Achievements

- Development of cell/tissue culture media and techniques
- First cure of a solid tumor (choriocarcinoma) using chemotherapy
- First clinical trial of lithium for depression
- Critical contributions to understanding the cause, pathophysiology, and drugs for HIV-AIDS
- Development of sequence similarity database searching and comparison
- The first gene therapy clinical trial
- Critical contributions to the development of the HPV vaccine to prevent cervical carcinoma
- Research resulting in 5 Nobel Prizes, including the elucidation of the genetic code
  - An additional 17 Nobel Prize winners were former trainees or employees of the NIH Intramural Research Program

# Research Areas of Interest to Multiple Institutes

- Chronic Inflammation
- Gene and Cell-Based Therapies
- Microbiome and Drug Resistance
- Neuroscience of Compulsive Behaviors
- Natural Products
- RNA Biology and Therapeutics
- Vaccines

See IRP long-term plan implementation from the June 11–12, 2015 ACD meeting  
<https://acd.od.nih.gov/meetings/meetings2011-2016.html>

# Scientific Director Responsibilities Include

- Oversight of scientific organization, setting of overarching research priorities, and allocation of resources within the IC's intramural research program (IRP)
- Recruitment and review of Principal Investigators and other key staff
- Oversight of scientific mentoring, and training activities within the IRP
- Oversight of budgets for intramural research and research-related expenses
- Compliance with safety, ethics, and other legal and policy requirements
- Clearance of manuscripts and other publications
- Assurance of deposition of data and published manuscripts in appropriate public databases (e. g. PubMedCentral, ClinicalTrials.gov)
- Nomination of candidates for awards, prizes and lectures
- Contributing to the development and support of *trans*-NIH initiatives
- Active participation in the governance of the NIH IRP through participation in the Board of Scientific Directors <https://oir.nih.gov/sourcebook/board-scientific-directors>



Susan Amara, Ph.D.  
NIMH



Robert Angerer,  
Ph.D., NIDCR



Robert Balaban,  
Ph.D., NHLBI



Antonello Bonci,  
M.D. NIDA



John Bucher, Ph.D.  
NIEHS/DNTP (Acting)



Catherine Bushnell.,  
Ph.D., NCCAM



Ann Cashion  
PhD, RN, FAAN  
NINR



Stephen Chanock  
M.D.  
NCI /DCEG



William Dahut, M.D.  
NCI /CCR (Clin)



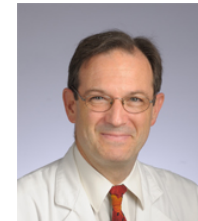
Luigi Ferrucci,  
M.D., Ph.D., NIA



John Gallin, M.D.  
CC



Andrew Griffith, M.D. ,  
Ph.D. NIDCD



Steven Holland,  
M.D.,NIAID



Daniel Kastner,  
M.D.,Ph.D.  
NHGRI



Alan Koretsky, Ph.D.  
NINDS



Michael Krause, Ph.D.  
NIDDK



George Kunos, M.D., Ph.D.  
NIAAA



Richard Leapman,  
Ph.D., NIBIB



John R. Mascola,  
M.D. ,VRC



Clement McDonald,  
M.D., NLM



Glenn Merlino, Ph.D.  
NCI/CCR (Basic)



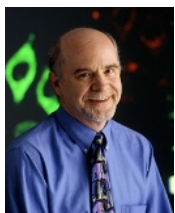
Sheldon Miller, PhD  
NEI



Tom Misteli, Ph.D.  
NCI/CCR



Anna Napoles, Ph.D.  
NIMHD



John J. O'Shea, M.D.  
NIAMS



Jim Ostell, Ph.D,  
NCBI/NLM (Act.)



Anton Simeonov  
Ph.D., NCATS



Constantine Stratakis M.D.,  
D.Sc. , NICHD



Benes Trus, Ph.D.  
Acting SD-CIT



Darryl Zeldin, M.D.  
NIEHS

SDs  
Nov. 2017

# Criteria for Scientific Review of Intramural Research

- **Significance** [Is the PI studying an important problem?]
- **Approach**
- **Innovation**
- **Environment** [Has the PI made use of the special features of the IRP?]
- **Support**
- **Investigator training** [Does the PI have the skills to do the proposed work?]
- **Productivity**
- **Mentoring**
  
- **For more information see:**  
<https://oir.nih.gov/sourcebook/processes-reviewing-nih-intramural-science>

# Board of Scientific Counselors

- The first Boards of Scientific Counselors (BSCs), constituted of scientists from outside NIH, were established in 1956 to review intramural research at NIH. The BSCs were established to assist the Scientific Directors in evaluating the quality of the intramural research programs for which they are responsible. To assure that the BSCs' evaluations will be most useful to the SDs in their decision making, the BSCs must be composed of individuals who themselves have outstanding scientific credentials and who are committed to providing rigorous, objective reviews.
- Principal investigators with independent resources must be reviewed by a BSC at least once every four years
- For more information see:

<https://oir.nih.gov/sourcebook/processes-reviewing-nih-intramural-science/boards-scientific-counselors>

# Tenure at the NIH

- **Tenure at the NIH is the commitment of salary to an independent Senior Investigator. Tenured Senior Investigators are granted independent resources (personnel, budget and space) by their Institute, and are required to have regular outside, expert review by Boards of Scientific Counselors. Resources may be adjusted up or down by the Institute, based on productivity and the quality of their work, as determined by these and other reviews.**

<https://oir.nih.gov/sourcebook/tenure-nih-intramural-research-program>

# Official Criteria for Tenure

- **High quality, originality and impact of scientific contributions to a specific field and biomedical research more generally**
- **Independent creative effort**
  - Independent research as evidenced by primary and senior authorship on original research publications
  - For team research, clear evidence of distinct intellectual contribution to the research; members of research teams should demonstrate peer recognition of their specific contributions and some publications should highlight their distinctive research
- **Productivity relative to resources**
- **National/international recognition and leadership**

<https://oir.nih.gov/sourcebook/tenure-nih-intramural-research-program/criteria-tenure-nih>

# Official Criteria for Tenure (cont.)

- **Mentorship abilities and activities**  
Success in training and mentoring junior colleagues at all levels and from diverse backgrounds, as evidenced by their professional progress, competitive funding and/or publications
- **High ethical standards and integrity in directing and conducting research**
- **NIH citizenship, collegiality and promotion of diversity**  
IC or NIH-wide activity or committee participation (e.g., Scientific Interest Group, IRB, ACUC, WSAs, Faculties, search committees, etc.), clinical service and other activities that promote the scientific enterprise at the NIH and more broadly  
Active promotion of diversity through training and mentoring and/or recruitment and retention of talented researchers from diverse backgrounds underrepresented in biomedical research, including US Citizens or US Permanent Residents who are from underrepresented racial and ethnic groups (African American, Hispanic or Native American Indian/Alaska Native), persons with disabilities and women.

# Documentation to Assess Fulfillment of the Criteria for Tenure

- Updated and accurate C.V. and bibliography, including all necessary information that addresses the criteria for tenure
- Letters of recommendation from the leaders in the field (at least 6 from non-collaborators)
- BSC reports, with particular emphasis on the most recent one (must be within the past 2 years for the Central Tenure Committee); for team research, also include relevant sections of reports prepared by program-specific internal oversight and scientific advisory board(s) documenting creative and distinct contributions to team productivity
- Recommending memorandum from the Laboratory/Branch Chief, team leader or Scientific Director, through IC Director, specifically addressing the recommendation for tenure
- Report of the IC Promotion & Tenure Committee (only for tenure-track candidates)

[https://oir.nih.gov/sites/default/files/uploads/sourcebook/documents/personnel/checksheet-tenure\\_appointment.pdf](https://oir.nih.gov/sites/default/files/uploads/sourcebook/documents/personnel/checksheet-tenure_appointment.pdf)

# Documentation to Assess Fulfillment of the Criteria for Tenure (cont.)

- **The 5 publications that the candidate considers most important**
- **Description of future research plans by the candidate (no more than 5 pages)**
- **Detailed description of the resources (budget, personnel, space, other) available to the candidate from the beginning of the tenure track to date, with a timeline of changes during the tenure track (only for tenure-track candidates); for team research, also include a summary of resources made available to the candidate as part of the team program**

# Management Controls Survey

- **Scientific Directors are responsible for conducting the intramural self-assessment of management controls**
- **A committee of intramural management experts designed a self-assessment questionnaire form to be filled out by each Scientific Director every year**

For details see:

<https://oir.nih.gov/sourcebook/intramural-program-oversight/management-controls-survey>

# Topics Covered in the Survey Include

- **Program and Project Planning/Management**
  - Protection of Human Subjects and Standards for Clinical Research
  - Rules Covering Involvement of Intramural Scientists and Use of Intramural Facilities in NIH-Funded Extramural Projects
  - Board of Scientific Counselor Reviews
  - Animal Care and Use
  - Scientific Misconduct
  - Administrative Procedures
- **Health and Safety of Intramural Personnel**
- **Recruitment, Appointment, Retention and Evaluation of Scientific and Technical Personnel**
  - Tenure Track
  - Women and Minority Scientists
  - Evaluation of Scientific and Technical Personnel
- **Conflict of Interest**
- **Technology Transfer**

# Administrative Review of Scientific Directors

- Each Scientific Director should be reviewed by an *ad hoc* external committee every four-to-six years or as the need arises.
- The Scientific Director submits a progress report, covering the four-to-six year period since the previous review, to the chair of the *ad hoc* committee. This report should describe short-and long-term goals and program achievements since the previous review or since assuming the position of SD.
- *Ad hoc* committee conducts review of the Scientific Director which should include interviews with the Scientific Director, Lab/Branch Chiefs, IC scientists at all levels, the IC Director, and the DDIR. Letters of reference may be solicited as appropriate.
- Chair, *ad hoc* committee, submits a report to the Advisory Council or Board, via the IC Director, entitled "Review of the Scientific Director (IC)".

For details see:

<https://oir.nih.gov/sourcebook/processes-reviewing-nih-intramural-science/guidelines-review-scientific-directors>

# The NIH Equity Committee

- The NIH Equity Committee was established in response to the recommendations of the Task Force on Gender Inequity in the NIH Intramural Research Program.
- Its charge is to support efforts to assure equity at the NIH by the Scientific Directors.
- The NEC meets monthly to consider, from each intramural program, demographic data and plans to improve the representation and environment for women and other scientists under-represented at the NIH.
- Approximately once per year, each Scientific Director will present at the NIH Equity Committee.

# Scientific Review of Scientific Directors' Independent Research

- Scientific Directors with independent research resources must undergo BSC review at least once every 4 years.
- The NIH Deputy Director for Intramural Research or his/her designee must be present for the report of the BSC to the IC Director, when a Scientific Director is reviewed by the BSC.

# Mandated Training for Scientific Staff Working in NIH Facilities

- The Scientific Director is ultimately responsible for assuring that all scientific staff within her/his IC are properly trained.
- Mandated training includes:
  - **Introduction to Laboratory Safety** <https://www.safetytraining.nih.gov/default.aspx?m=Please-Log-In>
  - **Introduction to the Responsible Conduct of Research**
  - **NIH Computer Security & Privacy Awareness**
  - **NIH Environmental Management (NEMS) Awareness**
  - **NIH Prevention of Sexual Harassment**
  - **Protection of Human Research Subjects**
  - **Technology Transfer Online Training**  
<https://oir.nih.gov/sourcebook/personnel/recruitment-processes-policies-checklists/mandated-training-scientific-staff-working-nih-facilities>

For details see:

<https://mandatorytraining.nih.gov/>

and

<https://oir.nih.gov/sourcebook/personnel/recruitment-processes-policies-checklists/mandated-training-scientific-staff-working-nih-facilities>

# Key Resources

- **Scientific Directors listserve** (see your OIR contact to be added)
- **Scientific Directors Sharepoint website** (see your OIR contact for access)  
<http://www.od.nih.gov/ScientificDirectors/default.aspx>
- **The Office of Intramural Research (OIR)**  
<https://oir.nih.gov/>
- **OIR Sourcebook** <https://oir.nih.gov/sourcebook>
- **Searchable database of all NIH intramural research projects** <http://intramural.nih.gov/search/index.tml>
- **Intramural Principal Investigators sorted by research area or name** <https://irp.nih.gov/our-research/principal-investigators>

# The Shared Resources Subcommittee (SRS) of the Board of Scientific Directors

- The SRS oversees multiple *trans*-NIH initiatives and facilities, supported by voluntary contributions from the IC IRPs.
- Contributions are based partly on the size of the IC IRP's budget and partly on the IC's use of the facility.

For more information see:

<https://oir.nih.gov/sourcebook/board-scientific-directors/board-scientific-directors-sub-committees>

# SRS-Supported Activities

- NIH Collaborative Research Exchange (CREx)  
[https://nih.scientist.com/users/sign\\_in](https://nih.scientist.com/users/sign_in)
- NIH MRI Research Facility (NMRF)
- Research Positron Emission Tomography Facility
- Imaging Probe development Center (IPDC)
- Advanced Imaging & Microscopy Resource (AIM)
- Biomedical Engineering and Physical Science Shared Resource (BEPS)
- Trans-NIH RNAi Screening Facility
- NIH MRI Research Facility (NMRF)
- NIH Mouse Imaging Facility (MIF)

For more information see: <https://irp.nih.gov/our-research/research-resources>

# SRS-Supported Activities (cont.)

- Promoting the NIH Intramural Research Program <https://irp.nih.gov/>
- NIH Oxford-Cambridge Scholars Program (Ox/Cam) <https://oxcam.gpp.nih.gov/index.asp>
- Stadtman and Lasker recruitments (advertising, outreach and website) <https://irp.nih.gov/careers/trans-nih-scientific-recruitments>
- Office of Intramural Training and Education (OITE) <https://www.training.nih.gov/>
- Graduate Partnerships Program (GPP) <https://www.training.nih.gov/programs/gpp>
- Protocol Tracking and Management System (PTMS) <https://neuroscience.nih.gov/irb/PTMS.aspx>
- Purchasing Online Tracking System (POTS) <http://tutorialdev.ninds.nih.gov/webhelp/>

# Other Shared and Central Research Resources

- Center for Human Immunology <https://chi.niaid.nih.gov/web/>
- DDIR Innovation Awards <https://oir.nih.gov/about/ddir-innovation-awards>
- NIH library <https://nihlibrary.nih.gov/agency/nih>
- NIH Clinical Center <https://clinicalcenter.nih.gov/>

# Selected *Trans*-NIH Career Development and Recruitment Programs

- **The Undergraduate Scholarship Program (UGSP)**  
<https://www.training.nih.gov/programs/ugsp>
- **Medical Research Scholars Program (MRSP)**  
<https://www.cc.nih.gov/training/mrsp/index.html>
- **Earl Stadtman Investigator Search**  
<http://irp.nih.gov/careers/trans-nih-scientific-recruitments/stadtman-tenure-track-investigators>
- **NIH Lasker Clinical Research Scholars Program**  
<http://www.nih.gov/science/laskerscholar/index.html>

# Annual PI Leadership Course for New Junior PIs, Organized by OIR



# Modules for 2017 New PI Course

- Goals for being a research group leader
- Using the principles of the Myers Briggs Type Indicator test to become a more effective leader
- OITE services
- Mentoring and Giving Feedback
- Building a Team while Containing Conflict
- Implicit Bias Awareness
- Scientific Misconduct: Prevention, Detection and Response
- Finding Mentors for Yourself and Getting your name out there
- Criteria for Tenure; Handling BSC Reviews
- Panel discussion with former members of the Central Tenure Committee and OIR's CTC coordinator

# Additional Mentoring for Tenure-Track Investigators and Assistant Clinical Investigators

- All junior faculty are required to have at least two mentors (usually a mentoring committee)
- Women Scientists Advisors mentoring groups
- MOMDADOCs (open to all NIH Scientists)
- At-large Mentors
  - Dr. Carl Hashimoto OIR/OSWD
  - Dr. Roland Owens OIR

# NIH Organizations Which Support Trainees

**NIH Office of Intramural Training & Education**

<https://www.training.nih.gov/>

**NIH Fellows Committee (FELCOM)**

<https://www.training.nih.gov/felcom>

**IC Training Contacts**

[https://www.training.nih.gov/ic\\_contacts](https://www.training.nih.gov/ic_contacts)

**Committee on Scientific Conduct and Ethics (CSCE)**

<https://oir.nih.gov/sourcebook/committees-advisory-ddir/committee-scientific-conduct-ethics-csce>

# Selected Training Activities for Fellows

- **"Becoming a Responsible Scientist": Ethics Training at the NIH**  
[HTTPS://WWW.TRAINING.NIH.GOV/ETHICS\\_TRAINING\\_HOME\\_PAGE](https://www.training.nih.gov/ethics_training_home_page)
- **Wednesday Afternoon Lecture Series (WALS)**  
<https://oir.nih.gov/wals>
- **Clinical Center Grand Rounds**  
<http://clinicalcenter.nih.gov/about/news/grcurrent.html>
- **NIH Director's Seminar Series** <https://www.nih.gov/about-nih/who-we-are/nih-director/directors-seminar-series>

# Selected Training Activities for Fellows (cont.)

- **Over 100 scientific interest groups**  
<https://oir.nih.gov/sigs>
- **Other Affinity Groups**  
[https://www.training.nih.gov/you\\_are\\_not\\_alone](https://www.training.nih.gov/you_are_not_alone)
- **FAES courses** <https://faes.org/>
- **Demystifying Medicine**  
<http://demystifyingmedicine.od.nih.gov>
- **NIH Research Festival (each fall)**  
<https://researchfestival.nih.gov/2017>

# Bridge Research Grants for Senior Fellows

- **K99/R00 grants**  
<https://oir.nih.gov/sourcebook/awards-fellowships-grant-opportunities/k99r00-grant-award-information>
- Also see:  
<https://oir.nih.gov/sourcebook/awards-fellowships-grant-opportunities/early-career-bridge-awards-open-irp-scientists>

# Additional Key Web Sites

NIH <https://www.nih.gov/>

**The NIH Intramural Research Program**

<http://irp.nih.gov/>

**Searchable database of all NIH intramural research projects**

<http://intramural.nih.gov/search/index.tml>

**Intramural Training Opportunities** <http://www.training.nih.gov>

**Deputy Director for Intramural Research Webboard**

**(NIH Access Only)** <http://ddir.nih.gov>

***The NIH Catalyst*** <http://irp.nih.gov/catalyst>

**Michael Gottesman's editorials from *The NIH Catalyst***

<http://ddir.nih.gov/Editorials.html>



**Intramural Research Program**  
*Our Research Changes Lives*

# Questions?

one program  
many people  
infinite possibilities

[irp.nih.gov](http://irp.nih.gov)